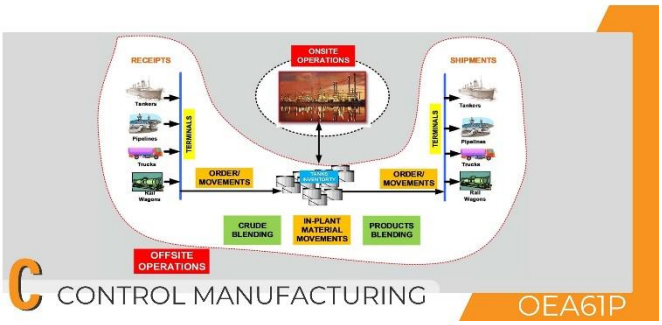
Refinery Offsite Operations



Topic ID	**OEA61T**
Title	**Refinery Offsite Operations**
Category	**C-Control Manufacturing**
eLearning Level	**Basic**

Introduction

Integration of offsite operations includes task control from beginning to end of operations, defining the sequence of the operation so that which task has priority may be clearly understood, and then operation monitoring such as oil movement and storage control.

This topic will discuss onsite and offsite operations, feeds, processing, and dispatch; integration; terminal operations; crude blending; in-plant material movement; tank farm operation; product blending operations; blending configurations; etc.

Function Integration Analysis

Function integration analysis checks the quality and composition of crude oil and refined oil. The integration is done through various methods such as laboratory analysis (where a sample is tested in a laboratory) and online analysis. For both types of analysis, test samples are obtained from the tanks and pipeline receipts.

Plant Movement

Crude oil from trucks, tanks, and railways is brought to the unit section through a pipeline. This crude oil is recirculated, transferred from one tank to another tank, and then from that tank to a processing unit. There it goes through several operations to form refined oil. The refined oil is then transferred from unit to pipeline, pipeline to tank, and finally tank to dispatch terminals.

Crude Blending

This process includes planning and scheduling to estimate how much crude oil should be received offsite through trucks or ships. Crude oil is then transferred to crude oil tanks through pipelines and valves. Next, the composition of the crude oil is checked. Finally, this crude oil is moved forward or backward to maintain its quality.

Tank Farming Operations

These operations include unloading tanks after receiving crude oil, loading crude oil tanks during dispatch, and tank swing (in which crude oil tanks are swung to remove impurities with the application of centrifugal force). They also include the water drainage process, which removes water from the insoluble oil. In addition, it helps for the recirculation of crude oil.

Product Blending

Product blending transforms crude oil into useful chemical products. Here, a refiner uses cracking or fraction distillation. Crude oil is heated at a specific temperature because it is a mixture of different products with different boiling points. So, the product with low boiling points is separated first. Then the product with a higher boiling point is separated, and so on.

Summary

Offsite operations consist of terminal operation, processing operation, and dispatch operation. Crude oil is received through tankers, trucks, pipelines, and railways. Blending configuration consists of different chemical products in a fixed quantity with various useful products. Products are mixed from tank to tank, from unit to tank, and from tank to pipeline.

Options for eLearning this topic

Mode of eLearning	Available?
Free Course	No
Refresher Course	Yes
Pick N Choose (Custom Curriculum)	Yes
Advanced Level Course	Yes
Structured MCOR Curriculum	Yes